

CLAIMS

1. Device for the preparation of a beverage from a soluble product, of the type comprising a collecting device having a seat suitable to receive a disposable cartridge containing the soluble product, said,
5 cartridge comprising at least one outlet opening for the delivery of a beverage consisting of said soluble product and a fluid, wherein said at least one outlet opening is defined by at least one breaking line present on a wall of said cartridge and wherein said collecting device comprises at least one piercing member to pierce said cartridge in
10 correspondence to said breaking line, characterised by comprising means of regulation of the delivery of said beverage in such a way that said soluble product is delivered for at least 75% of the total dispensing time.
2. A device according to Claim 1, wherein said means of regulation
15 comprise at least one delivery port between the wall of said piercing member and the edge of said outlet opening.
3. A device according to Claim 1 or 2, wherein said at least one engagement portion of said piercing member is substantially cylindrical in shape with circular section and wherein said outlet opening is
20 substantially circular in shape.
4. A device according to Claim 2 or 3, wherein the section of said delivery port is substantially circular crown-shaped, and wherein the ratio R between the diameter of the said outlet opening and the diameter of the engagement portion of said piercing member is $1 < R \leq 1.067$,
25 preferably $1 < R \leq 1.04$ and more preferably $1 \leq R \leq 1.02$.
5. Device for the preparation of a beverage from a soluble product, of the type comprising a collecting device having a seat suitable to receive a disposable cartridge containing the soluble product, said cartridge comprising at least one outlet opening for the delivery of a

beverage consisting of said soluble product and a fluid, wherein said at least one outlet opening is defined by at least one breaking line present on a wall of said cartridge and wherein said collecting device comprises at least one piercing member to pierce said cartridge in correspondence to said breaking line in order to form at least one delivery port of the beverage, characterised by comprising means for controlling the deformation of the cartridge base wall during the dispensing phase of said beverage.

6. A device according to Claim 5, wherein the section of said delivery port is substantially circular crown-shaped, and wherein the ratio R between the diameter of the said outlet opening and the diameter of the engagement portion of said piercing member is $1 < R \leq 1.067$, preferably $1 < R \leq 1.04$ and more preferably $1 \leq R \leq 1.02$.

7. A device according to Claim 2 or 6, wherein the section of said delivery port is substantially circular crown-shaped, and wherein ratio R between the diameter of the said outlet opening and the diameter of the engagement portion of said piercing member and is $1 < R \leq 1.014$.

8. A device according to Claim 1 or 5, wherein said means of regulation comprise one or more stop elements for limiting the deformation of a portion of the wall of said cartridge in proximity of said outlet opening.

9. A device according to Claim 1 or 5, wherein said means comprise at least one portion of the base wall of said cartridge being made of plastic material with visco-elastic behaviour.

10. A device according to Claim 8, wherein said one or more stop elements comprise one or more fins which support said piercing member.

11. A device according to Claim 8 or 10, wherein said one or more stop elements comprise at least one annular member having diameter

greater than said outlet opening.

12. A device according to Claim 11, wherein said annular member presents a surface portion tilted towards the base wall of said cartridge.

13. A device according to Claim 12, wherein said tilted surface portion
5 has an inclination between 0° and 45° with respect to a horizontal plane supported on said annular member.

14. A device according to Claim 12, wherein said tilted surface portion has an inclination between 15° and 35° with respect to a horizontal plane supported on said annular member.

10 15. A device according to Claim 12, wherein said tilted surface portion has an inclination of 30° with respect to a horizontal plane supported on said annular member.

16. Method for the preparation of a beverage from a soluble product contained in a disposable cartridge, wherein said cartridge is lodged in
15 the seat of a collecting device having at least one piercing member in order to open an outlet opening from said cartridge, said opening being defined by at least one breaking line present on a wall of said cartridge and wherein entry of a fluid into said cartridge is provided for through an entry port of the same in order to obtain the dispensing of a beverage
20 consisting of said soluble product and said fluid, characterised by providing regulation of the dispensing of said beverage so that said soluble product is delivered for at least 75% of the total dispensing time.

17. A method according to Claim 16, wherein the regulation of the dispensing is carried out by means of at least one delivery port between
25 the wall of said piercing member and the edge of said outlet opening.

18. A method according to Claim 16 or 17, wherein said at least one engagement portion of said piercing member is substantially cylindrical in shape with circular section and wherein said outlet opening is substantially circular in shape.

19. A method according to Claim 17 or 18, wherein the section of said delivery port is substantially circular crown-shaped, and wherein the ratio R between the diameter of said outlet opening and the diameter of the engagement portion of said piercing member is $1 < R \leq 1.067$.

5 20. A method according to Claim 17 or 18, wherein the section of said delivery port is substantially circular crown-shaped, and wherein the ratio R between the diameter of said outlet opening and the diameter of the engagement portion of said piercing member is $1 < R \leq 1.04$.

10 21. A method according to Claim 17 or 18, wherein the section of said delivery port is substantially circular crown-shaped, and wherein the ratio R between the diameter of said outlet opening and the diameter of the engagement portion of said piercing member is $1 < R \leq 1.02$.

15 22. A method according to Claim 17 or 18, wherein the section of said delivery port is substantially circular crown-shaped, and wherein the ratio R between the diameter of said outlet opening and the diameter of the engagement portion of said piercing member is $1 < R \leq 1.014$.

20 23. A method according to Claim 16, wherein regulation of dispensing is carried out by means of one or more stop elements in order to limit the deformation of a portion of wall of said cartridge in proximity of said outlet opening.

24. A method according to Claim 16, wherein said outlet opening is cut into the base wall of said cartridge.

25 25. A method according to Claim 23 or 24, wherein said one or more stop elements comprise one or more fins supporting said piercing member.

26. A method according to Claim 23 or 24, wherein said one or more stop elements comprise one or more annular members having diameter greater than said outlet opening.

27. A method according to Claim 26, wherein said annular member

has a surface portion tilted towards the base wall of said cartridge.

28. A method according to Claim 27, wherein said tilted surface portion has an inclination between 0° and 45° with respect to a horizontal plane supported on said annular member.

5 29. A method according to Claim 27, wherein said tilted surface portion has an inclination between 15° and 35° and preferably 30° with respect to a horizontal plane supported on said annular member.

30. A method according to Claim 16, characterised by controlling said deformation by means of the use of plastic material with visco-elastic
10 behaviour for the production of said cartridge.

31. Disposable cartridge for the preparation of a beverage from a soluble product in a device for beverage preparation according to any of Claims 1 to 15 or by the performing a method according to any of Claims 16 to 30.